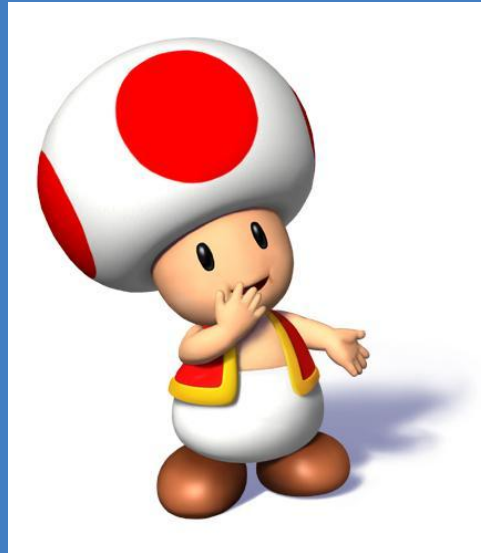


# 5.3 Factors in Population Change



# Learning Goals

- Identify factors of population change
- Identify impact of migration
- Population Distribution
- Birth/Death rates





# Factors in Population Change



# Factors in Population Change

## Birth Rate

### Birth Rate

- birth rate is the childbirths per 1,000 people per year.

This is a common measure of fertility for a given population.



# Birth Rate

- birth rate is frequently used in population geography and demography and is a useful indicator in studies of population around the world

- the formula for Birth rate is:  $BR = (b/p) * 1000$





# Birth Rate

- Example. In 2007, there were 3,250 births in a city with population of 223,000.

$$BR = (3,250/223,000)*1,000$$

$$BR = 14.57$$

There were 14.57 births  
for every 1,000 people  
in the city



# Factors in Population Change

## Death Rate





# Death Rate/Mortality Rate

- **Mortality rate** is a measure of the number of deaths (in general, or due to a specific cause) in some population, scaled to the size of that population, per unit time
- Mortality rate is typically expressed in units of deaths per 1000 individuals per year





- a mortality rate of 9.5 in a population of 100,000 would mean 950 deaths per year in that entire population



Death Rate =

- Number of deaths in the population during a specified time period
- The number of persons in the population during the specified time period



# Death Rate

Number of deaths in Mario Land in 2001 = 301

total population Mario Land 2001 = 30,726

CDR for Mario Land 2001

$$= \frac{301}{30\,726} \times 1000 =$$

9/1000 people

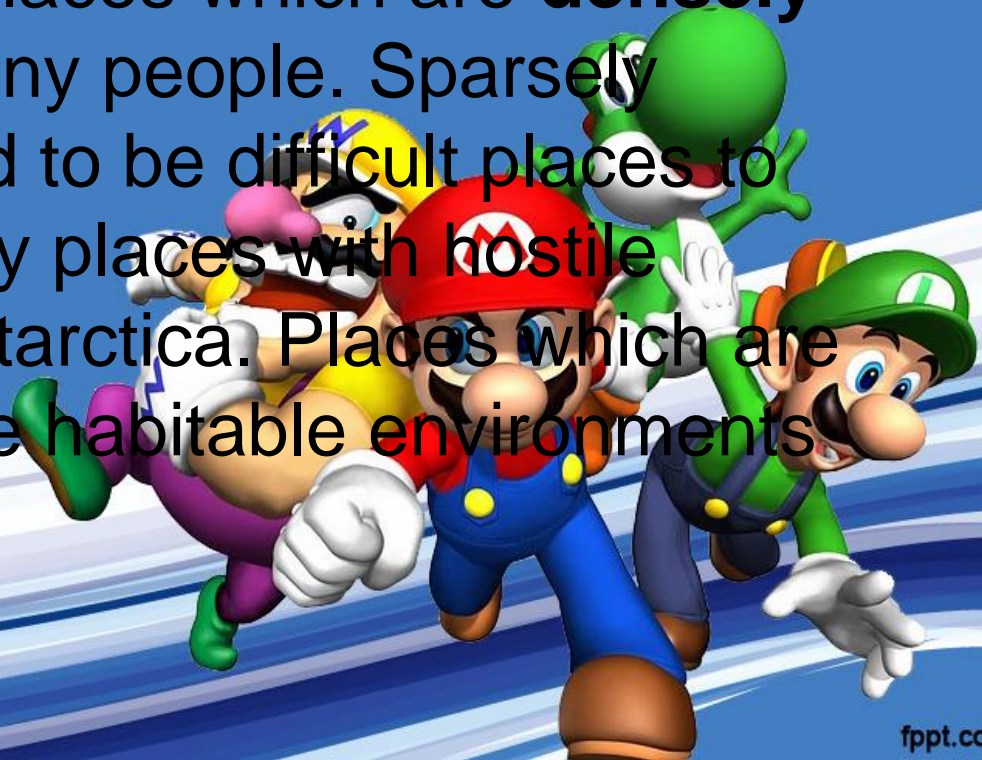
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# Population Distribution

- **Population distribution** means the pattern of where people live. World population distribution is uneven. Places which are **sparsely** populated contain few people. Places which are **densely** populated contain many people. Sparsely populated places tend to be difficult places to live. These are usually places with hostile environments e.g. Antarctica. Places which are densely populated are habitable environments e.g. Europe



# Natural Increase Rate

- Birth Rate- Death Rate

Ex..If we find the birth rate to be 13 and the death rate to be 7

$$13-7$$

$$6/1000 = 0.006$$

$$*100 = 0.6\% \text{ NIR}$$



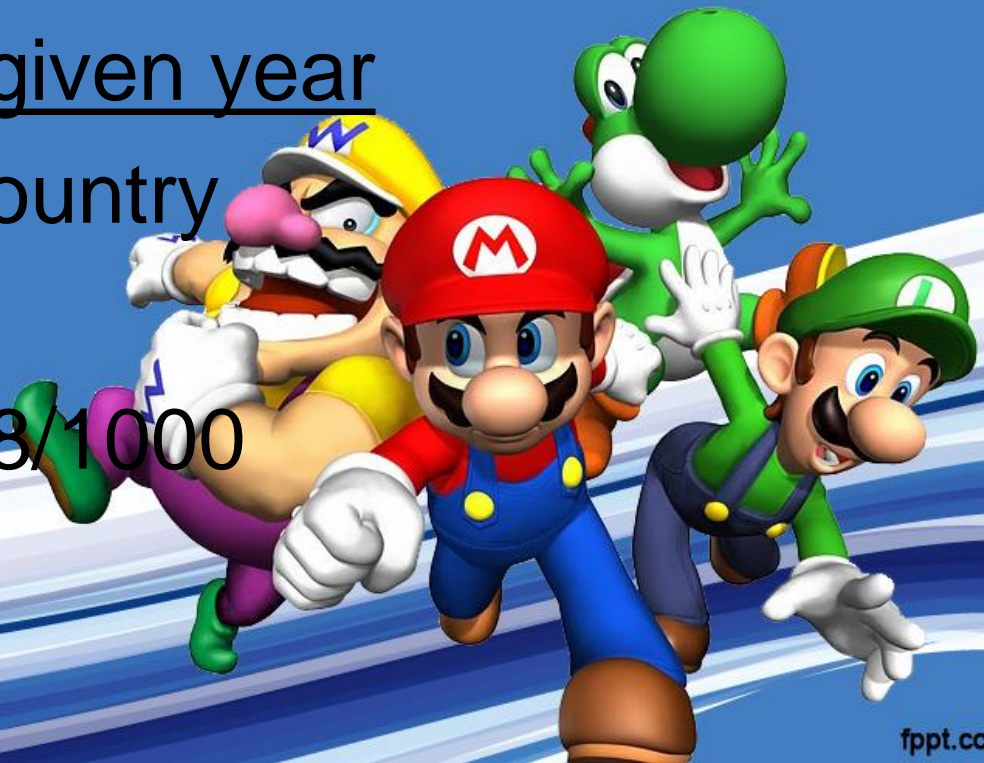
# Immigration Rate

is the process by which people migrate to Canada to reside permanently in the country

# of immigrants in a given year

Total population of country

$$\frac{250\ 640}{30\ 007\ 094} * 1000 = 8/1000$$





# Emmigration Rate

- **Emigration** is the act of leaving one's native country or region to settle in another.

# of immigrants in a given year

Total population of country

200 000 \* 1000 = 6/1000

30 007 094



# Net Migration Rate

- If you combine Immigration rate and emmigration rate you can find the net migration rate

$$\text{NMR} = \text{IR} - \text{ER}$$

$$\text{NMR} = 8 - 6$$

$$\text{NMR} = 2/1000 \text{ people or } 0.2\%$$

